

Hartford Primary School

YEAR GROUP	Year 6	SUBJECT	Design and Technology	TERM	Autumn
Prior Learning	Year 4: <i>Electrical systems: Simple circuits and switches.</i>				
Key themes and threads	<ul style="list-style-type: none"> Electrical systems 				
RETRIEVAL VOCABULARY	names of switches and components, program, design specification, design brief, user, purpose	NEW VOCABULARY	series circuit, parallel circuit, input device, output device, system, monitor, control, innovative, alarm, push to make switch, push to break switch, light dependent resistor (LDR)		

	Essential Learning for this lesson	Suggested teaching tasks/approaches	New Knowledge – What I’m leaving the lesson with
LESSON 1	Research and evaluate existing products and design criteria I can talk about what a variety of electrical sensors are for. I can explain the essential characteristics of an electrical sensor	<ul style="list-style-type: none"> Provide children opportunities for children to explore a variety of electrical sensors e.g. nightlights, alarms, ring doorbell. Explore their purpose and user. Collate a whole class design criteria e.g. wires, sensors, on and off switch. Research famous inventor – Thomas Edison light bulb. 	I know about a range of electrical products that respond to changes in the environment. I know a variety of purposes for electrical sensors. I know who can benefit from electrical sensors. I know who Thomas Edison was and what he is famous for.
LESSON 2	Focused practical tasks I can make electrical circuits with a switch. I can make simple drawings of circuits and annotate them.	<ul style="list-style-type: none"> Explore and make simple circuits. Draw and annotate diagrams. Use simple switches 	I know the components of a simple circuit. I know how to construct a simple circuit. I know how to insert and use a switch in a simple circuit.
LESSON 3	Design and elaborate design brief (personalise their own) I can create a design brief for an alarmed vehicle.	<ul style="list-style-type: none"> Create a circuit for their vehicle Decide what type of alarm they will use. Create a design brief. 	I know what an authentic and meaningful design brief should include for an alarmed vehicle. I know what components and equipment I will need. I know how to explain the input, process and output of my circuit.
LESSON 4	Make I can make an alarmed vehicle fit for purpose.	<ul style="list-style-type: none"> Construct circuit and shell using design brief, modifying where necessary 	I know how to follow my design and alter if necessary. I know how to create my circuit safely and purposefully. I know how to use presentation skills to make my vehicle look appealing. I know how to follow a process step by step, making changes if necessary.

LESSON 5	Continuation of lesson 4		
LESSON 6	Make and evaluate I can evaluate my product against my design criteria I can explain why or why not my alarmed vehicle is suited to its purpose and user	<ul style="list-style-type: none"> Children carry out their evaluations of their alarmed vehicles. 	<ul style="list-style-type: none"> I know how to critically evaluate my final product against my design specification. I know how to test my system to demonstrate its effectiveness for the intended user and purpose.

Helpful resources to reference	CURRICULUM_DT_MTP_AUTUMN
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